Supplemental material to the article

"Isolated (quantum) emitters, formed with the participation of defects in ZnSe/ZnMgSSe heterostructure"

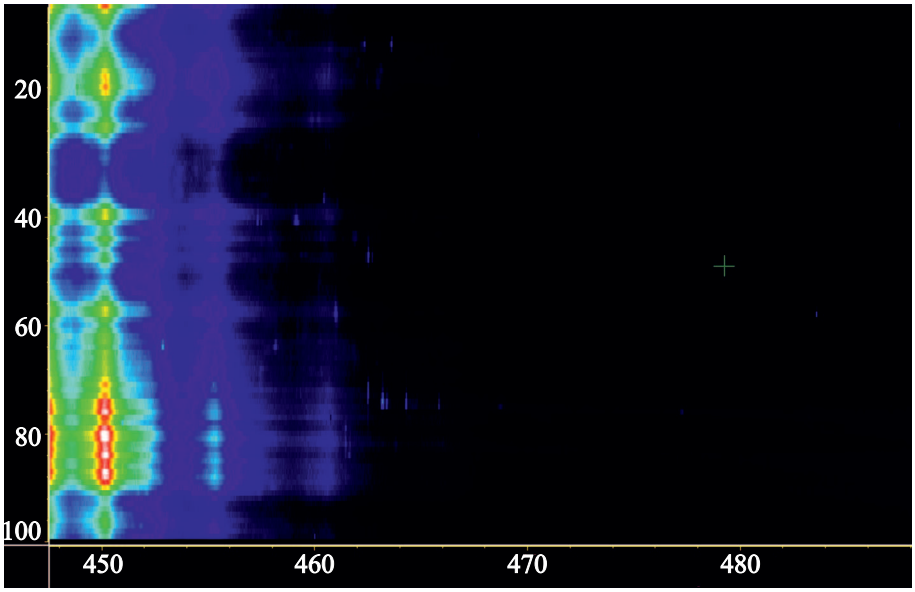

Figure 1: A typical map of microphotoluminescence (MPL) signal for ZnSe/ZnMgSSe quantum well recorded at 5 K using high-sensitivity CCD detector (twenty times magnified image of the sample surface is cropped by 20 μm entrance slit, spectrally decomposed and than projected on the CCD). X-axis – emission wavelength, nm; Y-axis – spatial coordinate along the vertical sample axis, μm. Some image distortions may take place on the image edges due to aberrations. Bright spots in 452–465 nm spectral region are point emitters related with defects. It is worth note that such maps can contain artifacts caused by cosmic ray particles. These artifacts are identified by using several records of MPL map (they are not reproduced)

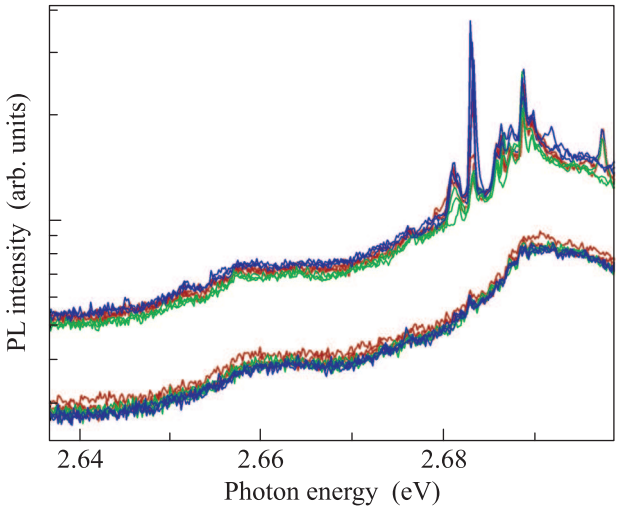

Figure 2: Dependence of the emission spectra of isolated point sources on temperature and polarization. Upper curves are recorded at 5 K, lower curves – at 10 K. Blue lines – vertical linear polarization (0°), red and green ones – 45° and 90° (horizontal) linear polarization, respectively. One can see phonon replicas of the isolated source emission lines in the long-wavelength part of upper curves. A spatial size of sample surface area analyzed is of about $1 \times 1\,\mu\mathrm{m}^2$

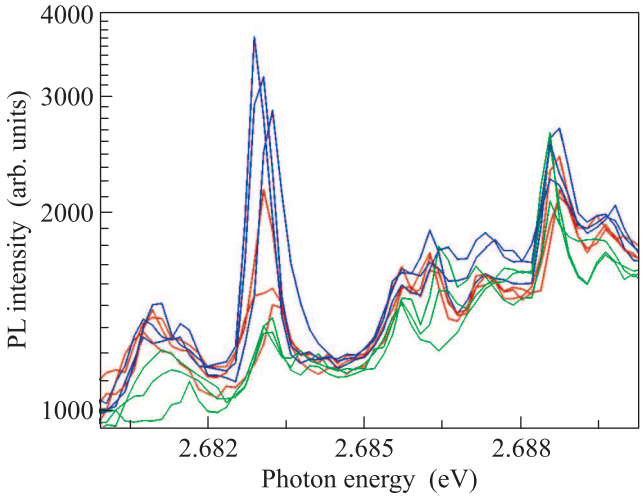

Figure 3: Fine structure of no-phonon line shown in Fig 2. Three records for each polarization were performed. Blue lines – vertical linear polarization (0°), red and green ones – 45° and 90° (horizontal) linear polarization, respectively. The spectra are recorded at 5 K